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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor
Kathleen Clarke
Executive Director
Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

February 8, 2002

Johnny Pappas, Sr. Environmental Engineer
Plateau Mining Corporation.
847 Northwest Highway 191
Helper, Utah 84526

Re: Approval of Amendment To Change Water Monitoring Requirements, Plateau Mining Corporation, Willow Creek Mine, C007/038-AM00L-3, Outgoing File

Dear Mr. Pappas:

The above-referenced amendment is approved effective February 7, 2002. A stamped incorporated copy is enclosed for your copy of the Mining and Reclamation Plan.

If you have any questions, please feel free to call me at (801) 538-5325.

Sincerely,

Daron R. Haddock

Daron R. Haddock
Permit Supervisor

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Enclosure
cc Larry Kline, OSM
Richard Manus, BLM
Mark Page, Water Rights w/o
Dave Ariotti, DEQ w/o
Derris Jones, DWR w/o
Price Field Office
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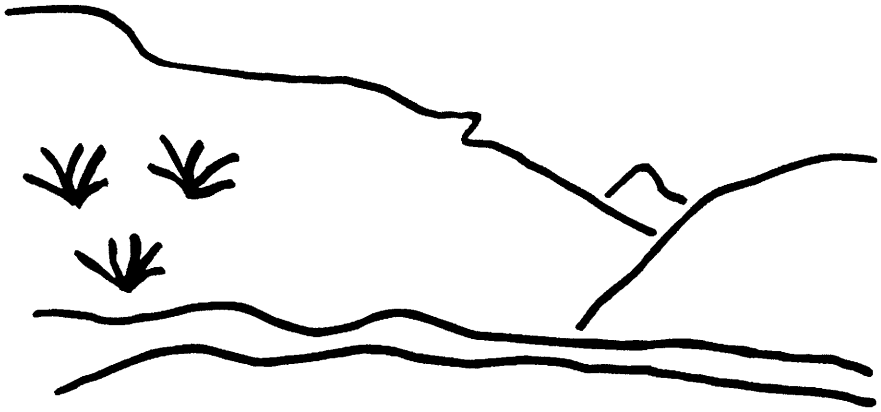
State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Willow Creek Mine
Water Monitoring Requirements
C/007/038-AM00L-3
Technical Analysis
February 7, 2002

TECHNICAL ANAYLSIS

INTRODUCTION

Proposed changes to the water-monitoring plan for Willow Creek Mine were received on November 17, 2000. The Division returned a Technical Analysis on January 12, 2001 in which there were deficiencies. The Operator submitted a response that was received by the Division on April 16, 2001. On July 27, 2001 the Division received a response to the TA. On October 29, 2002 the Division responded with a Technical Analysis having two minor deficiencies. On December 17, 2001 the Division received clean copies of the amendment with those deficiencies corrected. This Technical Memo is in response to that latest submittal. There are no deficiencies that needing correction.

INTRODUCTION

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Groundwater Monitoring

In order to protect the hydrologic balance underground mining activities shall be conducted according to the hydrologic reclamation plan. Ground-water quality shall be protected by handling earth materials and runoff in a manner that minimizes acidic, toxic, or other harmful infiltration to ground-water systems and by managing excavations and other disturbances to prevent or control the discharge of pollutants into the ground water.

Ground-water monitoring shall be conducted according to the ground-water monitoring plan. The Division may require additional monitoring when necessary. Ground-water monitoring data shall be submitted every 3 months to the Division or more frequently as prescribed by the Division. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analysis of any ground-water sample indicates noncompliance with the permit conditions, the operator shall promptly notify the Division and immediately provide for any accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance. Plans and hydrologic information to evaluate and mitigate the noncompliance situation and information relevant to the PHC shall be submitted to the Division as required.

Ground-water monitoring shall proceed through mining and continue during reclamation until bond release. The Division may modify the monitoring requirements including the parameters covered and the sampling frequency if the operator demonstrates, using the monitoring data obtained, that: the operation has minimized disturbance to the prevailing hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved postmining land uses; or, monitoring is no longer necessary to achieve the purposes set forth in the monitoring plan.

Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of ground water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed.

Surface Water Monitoring

In order to protect the hydrologic balance, underground mining activities shall be conducted according to the approved plan, and the following: surface-water quality shall be protected by handling earth materials, ground-water discharges, and runoff in a manner that minimizes the formation of acidic or toxic drainage; prevents, to the extent possible using the best technology currently available, additional contribution of suspended solids to streamflow outside the permit area; and otherwise prevent water pollution. If drainage control, restabilization and revegetation of disturbed areas, diversion of runoff, mulching, or other reclamation and remedial practices are not adequate to meet water-quality standards and effluent limitations, the operator shall use and maintain the necessary water-treatment facilities or water-quality controls. Surface-water quantity and flow rates shall be protected by handling earth materials and runoff in accordance with the steps outlined in the approved plan.

Surface-water monitoring shall be conducted according to the approved surface-water monitoring plan. The Division may require additional monitoring when necessary. Surface-water monitoring data shall be submitted every 3 months to the Division or more frequently as prescribed by the Division. Monitoring reports shall include analytical results from each sample taken during the reporting period. When the analysis of any surface-water sample indicates noncompliance with the permit conditions, the operator shall promptly notify the Division and immediately provide for any accelerated or additional monitoring necessary to determine the nature and extent of noncompliance and the results of the noncompliance. Plans and hydrologic information to evaluate and mitigate the noncompliance situation and information relevant to the PHC shall be submitted to the Division as required. The reporting requirements of the water monitoring plan do not exempt the operator from meeting any National Pollutant Discharge Elimination System (NPDES) reporting requirements.

Surface-water monitoring shall proceed through mining and continue during reclamation until bond release. The Division may modify the monitoring requirements, except those required by the NPDES permitting authority, including the parameters covered and sampling frequency if the operator demonstrates, using the monitoring data obtained, that: the operation has minimized

disturbance to the hydrologic balance in the permit and adjacent areas and prevented material damage to the hydrologic balance outside the permit area; water quantity and quality are suitable to support approved postmining land uses; and, monitoring is no longer necessary to achieve the purposes set forth in the approved monitoring plan.

Equipment, structures, and other devices used in conjunction with monitoring the quality and quantity of surface water onsite and offsite shall be properly installed, maintained, and operated and shall be removed by the operator when no longer needed.

Analysis:

Ground-water monitoring and Surface-water monitoring

The amendment proposes elimination of one stream monitoring point, B131, and one spring monitoring point, B241. The justification for eliminating these points is found on page 4.7-12 where it's noted that they are some distance from the projected mine workings and are, "outside the realm of impact from mining associated with the Willow Creek Mine". Further, B131 does not drain any land from the permit area and B241 will not be undermined.

While researching the request to eliminate the monitoring points it was evident from the regulations that the Division should make a finding as to whether the points were "reasonably necessary" for the permit to be maintained. The following permit drawings were reviewed: Maps 12, 14E, 15, 19B, and 19D. From them it was determined that the expected subsidence areas of the A and K seams were the only ones close enough to possibly impact the recharge area to the spring and the drainage area of the stream monitoring points. The subsidence areas for both seams are not close enough to impact the spring or the stream. There is also about 3,000 feet of overburden in the mined area, which would have little subsidence. Further, there is canyon drainage, Deep Canyon that is deep enough to separate the subsidence areas and the monitoring points. Therefore, the two monitoring points, B131 and B241, do not appear to be needed and they can be eliminated from the monitoring plan. They are not reasonably necessary to monitor possible mining impacts to the hydrologic regime. Since sites B131 and B241 are removed from the MRP, Tables 3.7-1 and 4.7-1 have been modified by crossing out the sites to reflect the changes. However, the sites are left on the table to show readers that historical data exists for the sites.

Table 4.7-2, Hydrologic Monitoring Program Water Quality Analysis Parameters, has been modified to delete the requirement for laboratory analysis of pH and EC, micromhos @25 degrees Celsius. Using the Division's Water Quality Database, the field and laboratory pH and EC were compared. While all sites reporting these parameters were reviewed, not all the individual reporting sites were evaluated. First, it was noted that field analysis of both parameters was present for 100% of the entries. By contrast, lab pH was reported only 32% of the time and lab EC was reported only 42% of the time. Second, a quick visual inspection showed the field and laboratory EC were different in about 10% of the entries. This demonstrates that field parameters are reported all the time as compared to the lab analysis which is reported only about 1/3 of the time. Further, in 90% of the cases the field and lab EC were consistent 90 % of the time. These comparisons provide justification for removing laboratory analysis of pH and EC.

Table 4.7-2, footnote 3, indicates, "Stream monitoring locations B3N, B5, B6, and B151 will be monitored for dissolved oxygen. Stream monitoring locations B25, B26, B263, B353, BN221 will not be monitored for dissolved oxygen, because these sites do not have direct contact with the mine's operation, the concentrations of chemicals have remained constant and they do not support fisheries. First, sites B25 and B26 are located above and below the disturbed area in Crandall Canyon. This is an ephemeral stream. Further, dissolved oxygen, DO, is monitored to determine quality of fish habitat. There are no fish in Crandall Canyon since there's a 12 foot water fall at the mouth of the canyon that prevents fish from ever migrating up the stream. Removal of the requirement to monitor DO at B25 and B26 is justified.

B263 is in the upper reach of Deep Canyon which is also an ephemeral stream which has no fish in it. BN221 is at the mouth of Sulphur Canyon which is also an ephemeral stream and has a falls at the mouth of the stream which prevents fish from going upstream. Removal of the requirement to monitor DO at B263 and B221 is justified.

B353 is located in Mathis Canyon which is fed by Mathis Spring. Thus the upper reaches are ephemeral while the lower half is spring-fed. A fish survey was performed by the mine in cooperation with the Utah Division of Wildlife Resources, DWR. "No fish were found." is the conclusion of the survey as documented in a September 6, 2001 letter from DWR to DOGM. They also "noted the presence of barriers to upstream fish migration". Since DO is monitored to determine quality of fish habitat, and since there are no fish in the stream, the removal of the requirement to monitor DO at B353 is justified. The DWR letter is included in the amendment.

Four new pages in Exhibit 19, Chapter 7, Hydrology are included in the submittal. Included are the cover page, page 7-iv,7-57, and the last page of Table 4.7-3. These are to add historical perspective to the separation of the old Castle Gate Mine, Mining and Reclamation Plan from the new Willow Creek Mine, MRP.

The last proposed modifications to the water monitoring plan are contained in Table 4.7-3 which contains both the Willow Creek Operational Water Sampling Schedule, which is used during the Operational Phase of mining and the Willow Creek Baseline Water Sampling Schedule to be used for Monitoring in 2005 (year prior to permit renewal).

The revised Willow Creek Operational Water Sampling Schedule and the Willow Creek Baseline Water Sampling Schedule shows monitoring in all four quarters of the year as required by regulations. This is true for all springs, streams, and wells. The revised monitoring is considerably simpler than the original one and still satisfies regulations. Further, the field and operational monitoring is scheduled for the last month of the first quarter and the first month of the last quarter, which has greater assurance of being performed during those winter months.

Findings:

Information provided in the proposed amendment is considered adequate to meet the requirement of this section.

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